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# Personal Internet Usage at Work: The Dark Side of Technology Adoption

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## ABSTRACT

Internet access in the workplace has become ubiquitous in many organizations. Often, employees need this access to perform their duties. However, many studies report a large percentage of employees use their work Internet access to engage in non-work-related activities. These activities can result in reduced efficiency, increased vulnerability to cyber attack, and legal liability for the organization. In this study, we use a survey method approach to determine the impact of perceived moral intensity on employees' decisions to engage or not engage in personal Internet usage at work.

### Keywords

Personal Internet usage at work, technology abuse, moral intensity, intention.

## INTRODUCTION

Personal Internet use at work (PIUW) by employees has become a serious problem for many organizations. A recent survey found that the average employee spends two hours per day on Internet use that is not work-related (Bin Baharudin, Zainuddin, and Ramayah, 2005). Other research has shown that productivity losses of 30 to 40 percent may result from inappropriate Internet usage (Lim, Teo, and Loo, 2002). A reduction in network bandwidth available for legitimate work and vulnerability to viruses and other threats are also consequences of these acts by employees.

While models such as Davis, Bagozzi, and Warshaw's (1989) Technology Acceptance Model (TAM) and Venkatesh, Morris, Davis, and Davis's (2003) Unified Theory of Acceptance and Use of Technology (UTAUT) have looked at the decision of individuals to use or not use technology, our investigation attempts to move past the question of *technology usage* and on to the subject of *technology misusage*. Previous models of technology adoption can give us some insight into this phenomenon, but they lack the ability to explain the moral decision-making aspect that is involved when technology is used in a manner other than that allowed by organizational policies. This study will give a better understanding of the factors that organizations can influence that impact employee intention concerning PIUW.

## LITERATURE REVIEW & HYPOTHESES DEVELOPMENT

### Antecedents of Intention

We examined the information systems and organizational behavior literature for research that had studied intention as a dependent variable. Factors that had strong support in the literature of both Information Systems (IS) and other disciplines were used to construct the model.

#### *Social Influence*

We define social influence as the degree to which an individual perceives that important others believe PIUW is morally unacceptable. Venkatesh et al.'s (2003) conceptualization of this construct included both an individual's subjective norm and organizational social factors.

A number of behavioral models propose that social influence, or the influence of immediate others, impacts intention to commit an act (e.g., Theory of Planned Behavior, Social Control Theory, Social Learning Theory, Theory of Reasoned Action, and UTAUT). Numerous studies in the IS field have found that the presence of more ethical social norms in an

organization lead to a reduced level of intention to commit: General computer abuse (Banerjee, Cronan, and Jones, 1998; Loch and Conger, 1996), Piracy (Peace, Galletta, and Thong, 2003; Tang & Farn, 2005), and PIUW (Galletta and Polak, 2003; Woon and Pee, 2004). Based on the findings of this research, we believe that social influence will be negatively related to intention to engage in PIUW. Thus, we hypothesize the following:

***H1a**: As social influence increases, the intention to commit PIUW will decrease.*

### *Expected Personal Benefits*

Expected personal benefits are the possible rewards that an individual could receive for committing an action. Expected personal benefits could include monetary benefits such as saving or making money, as well as factors such as entertainment, relief of boredom, and expression of creativity.

The idea of expected benefits influencing intention has been included in a number of behavioral models. For example, Beccaria's (Paolucci, 1963) General Deterrence Theory states that individuals will engage in a behavior when the benefits outweigh the costs; Davis et al.'s (1989) TAM states that perceived usefulness will influence intention; and Venkatesh et al.'s (2003) UTAUT states that performance expectancy will affect intention. Benefits can include personal and financial gains, especially for high priced software, and were found to be positively related to intention to pirate software (Loch and Conger, 1996; Tang & Farn, 2005). Based on the findings of this research, we believe that the level of expected personal benefits will be positively related to intention to commit PIUW at work. Thus, we hypothesize the following:

***H2a**: As the level of expected personal benefits increases, the intention to commit PIUW will become more positive.*

### *Perceived Difficulty*

Perceived difficulty refers to an individual's perception of how hard it would be to complete a given task. The root components of this construct are facilitating conditions, self efficacy, ease of use, and perceived behavioral control. Self-efficacy is the individual's perception of his or her own ability to complete a certain task (Venkatesh et al., 2003). Resource and technology facilitating conditions refer to the factors in the environment that make an act easier to accomplish (Venkatesh et al., 2003). Perceived ease of use is the individual's perception of the degree to which use of the system will be free of effort of difficulty (Davis et al., 1989). Perceived behavioral control was defined by Venkatesh et al., (2003) as a construct that "reflects perceptions of internal and external constraints on behavior." Venkatesh et al. found that the effects of facilitating conditions and computer self-efficacy upon intention were captured by effort expectancy. This would suggest that they should all be combined into a single construct.

Chang and Cheung (2001) found that an individual's perception of high complexity or difficulty of performing an action resulted in a lower intent to engage in personal Internet usage. Loch and Conger (1996) found that an individual's computer literacy has a significant impact on intention, with higher computer literacy resulting in a higher reported intention to engage in general technology abuse. Chang and Cheung (2001) also found that the existence of facilitating conditions made the intention to engage in PIUW more likely. In fact, the employee's perception of perceived behavior control has been shown in numerous studies to be negatively related to intent to pirate software (Peace and Galletta, 1996; Peace et al., 2003). Thus, we hypothesize the following:

***H3a**: As the level of perceived difficulty increases, the intention to commit PIUW will decrease.*

### *Perceived Personal Risk*

Perceived risk is the individual's perception of the possible consequences that he or she could face for committing an action. Perceived risk could include organizational consequences such as loss of privileges or even termination. Perceived risk could also include social consequences such as loss of esteem in the eyes of colleagues and legal consequences such as liability for violations of applicable law.

The idea that perceived personal risk can influence intention has been proposed by a number of behavioral models. For example, General Deterrence Theory (Paolucci, 1963), Theory of Interpersonal Behavior (Triandis, 1980), and Expected Utility Theory (Bernoulli, 1954) all propose that perceived consequences have an effect on intention. IS research has also found that consequences and risk can have an impact on an employee's intention to commit acts of abuse. For instance, a number of studies have found that the intention to pirate software was reduced by the presence of perceived consequences (Tan, 2002; Thong and Yap, 1998). Studies have also shown that the intent to commit PIUW was significantly reduced by the perceived presence of consequences (de Lara, Tacoronte, and Ding, 2006; Woon and Pee, 2004). Workman and Gathegi (2007) found that punishment can be effective in reducing the threat of both software and information security misuse. Based

on the findings of this research, we believe that perceived personal risk will be negatively related to intention to commit PIUW. Thus, we hypothesize the following:

> ***H4a****: As the level of perceived personal risk becomes greater, the intention to commit PIUW will become more negative.*

#### *Moral Judgment*

Moral judgment refers to an individual's decision of the most morally correct course of action among all of the available alternatives (Rest, 1979). Rest proposed that moral judgment has a positive effect on intention in his four component model. Leonard et al., (2004) found that moral judgment was significant in predicting intention to engage in general computer abuse. Similarly, Tan (2002) and Moores and Chang (2006) both found that moral judgment was significant in predicting intention to commit piracy. In all three studies, individuals were more likely to form an intention that agreed with their moral judgment of the action. Based on the findings of this research, we believe that moral judgment will be positively related to intent to commit PIUW. Thus, we hypothesize the following:

> **H5a:** As moral judgment about the action becomes more negative, intention to commit the action will become more negative.

#### *Perceived Moral Intensity*

Jones (1991) defined perceived moral intensity as "a construct that captures the extent of issue-related moral imperative in a situation" (p.372). A number of technology abuse studies have found evidence that decisions concerning intention to engage in technology abuse are issue-contingent, that is, they are specific to the particular characteristics of a given issue. Studies that did not include an issue-contingent construct have observed that the issue used in the instrument was itself a significant predictor of intention concerning general computer abuse (e.g., Banerjee et al., 1998; Leonard and Haines, 2007). Studies that include an issue-contingent construct have found significant results. For example, Tan (2002) found that perceived moral intensity was significant in predicting an individual's intention concerning software piracy, with a higher level of perceived moral intensity resulting in a lower level of intention to commit software piracy. Similarly, both Leonard et al., (2004) and Leonard and Haines (2007) found that the perceived importance of the issue was significant in predicting intention to commit general technology abuse, with a higher level of perceived importance resulting in a lower level of intention to commit the abuse.

In his theoretical paper on the need for an issue-contingent model of moral decision making, Jones (1991) suggested a measure he called moral intensity. He theorized that moral intensity was a formative construct composed of six components: magnitude of consequences, social consensus, probability of effect, proximity to victim, temporal immediacy, and concentration of effect. Although Jones (1991) did not include an empirical test of moral intensity, a number of studies have found significant results when examining the relationship between moral intensity and intention. For example, both Singhapakdi, Vitell, and Kraft, (1996) and Paolillo and Vitell (2002) found that perceived moral intensity is a significant positive predictor of ethical intentions with a higher perception of perceived moral intensity related to a lower level of reported intention to commit the action. Jones (1991) proposed that a higher level of moral intensity would cause an individual to judge questionable behaviors as more unethical. He also proposed that a higher level of moral intensity would decrease an individual's intent to commit an ethically questionable action. In addition, he proposed that a higher level of moral intensity would cause an individual to be less likely to engage in an ethically questionable behavior. Following Jones' propositions, we hypothesize the following:

> ***H6:*** *As the level of perceived moral intensity increases, an individual's intention to commit PIUW will decrease.*

#### *4.2.3 The Moderating Effect of Perceived Moral Intensity*

Besides having a direct impact on intention evidence exists in the ethics literature to suggest that perceived moral intensity may have a moderating effect on the relationship between intention and its antecedents. For example, Flannery and May (2000) found in a study of a wastewater treatment issue that the ethical intentions of managers increased as the magnitude of consequences increased. However, they found that the antecedent factors in Ajzen's (1991) theory of planned behavior (e.g., attitude, subjective norm, and perceived behavioral control) were more strongly related to managers' ethical intentions regarding wastewater treatment when the magnitude of consequences was low (e.g., low harm to both people and the environment) than when it was high (e.g., high harm to either people or the environment).

The moderating effect of perceived moral intensity on the relationship between moral judgment and its antecedents and intention and its antecedents is rooted in research conducted by Weber (1990 and 1996) and Kohlberg (1969). Weber (1990

and 1996) found that an individual's perception of the perceived moral intensity of an issue affected his or her level of moral reasoning, with higher levels of perceived moral intensity causing individuals to use a higher level of moral reasoning to make a judgment. Kohlberg's (1969) theory of moral development states that different factors will influence an individual's moral judgment depending on the level of moral reasoning they are using. While we do not measure moral reasoning level directly, it can be inferred using the findings of Weber (1996). Weber's findings indicated that a higher level of perceived moral intensity will cause the individual to make moral judgments on the basis of principled moral considerations such as those described in Kohlberg's third stage of moral reasoning (e.g., universal ethical principles). A lower level of perceived moral intensity would cause the individual to make moral judgments and form intentions based on considerations other than principled moral considerations such as those described in Kohlberg's first and second stage of moral reasoning (e.g., punishment avoidance, personal gain, and conformity to standards).

In other words, Weber found that a low level of perceived moral intensity will cause an individual to make decisions based on a need to avoid punishment or discomfort, satisfaction of one's own needs, and a need to conform to the expectations of those important to him or her. Thus, perceived difficulty, perceived personal risk, expected personal benefits, and social influence should have the most impact on intention when the individual perceives a low level of perceived moral intensity. Flannery and May (2000) also found that perceived behavioral control was more strongly related to managers' ethical intentions when the magnitude of consequences was low. Thus, we hypothesize the following:

**H1b:** The impact of social influence on intention will be greater in situations when the perceived moral intensity is lower.

**H2b:** The impact of expected personal benefits on intention will be greater in situations when the perceived moral intensity is lower.

**H3b:** The impact of perceived difficulty on intention will be greater in situations when the perceived moral intensity is lower.

**H4b:** The impact of perceived personal risk on intention will be greater in situations when the perceived moral intensity is lower.

According to Weber's (1996) findings, a higher level of perceived moral intensity will cause an individual to make decisions based on principled moral considerations. Thus, moral judgment should have the most impact on intention when the individual perceives a higher level of moral intensity. Haines and Leonard (2007) also found support for the hypothesis that the perceived moral intensity of an issue moderates the relationship between judgment and intention. Thus, we hypothesize the following:

**H5b:** The impact of moral judgment on intention will be greater in situations when the perceived moral intensity is higher.

### Control Variables

Past research suggests additional variables that should be included because of their potential influence on intention and behavior. However, since our study seeks to find antecedents that management can change in order to increase moral awareness among employees and these demographic variables cannot be impacted by actions of management, they are included as control variables to remove their impact on moral awareness.

A number of information systems studies have found that age significantly impacts the moral judgments of individuals. For instance, Gopal and Sanders (1997) and Harrington (2000) found that younger individuals were more likely to express an intention to engage in piracy. Leonard et al. (2004) found that age was a significant predictor of moral intention to engage in general technology abuse with younger individuals also reporting a lower level of intention to engage in abuse. Because of these results, we control for age to remove its influence from our model.

Studies have also found evidence to suggest that gender has an impact on moral intention as well. In the information systems literature, gender was found to predict piracy (Gopal and Sanders, 1997) as well as general computer abuse (Leonard and Haines, 2007), with males more likely than females to express an intention to commit abuses. We therefore control for gender to remove its influence from our model.

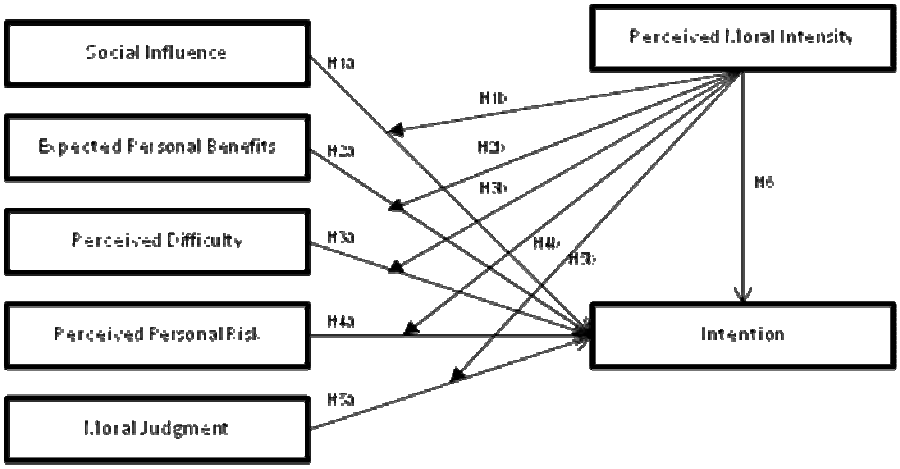


**Figure 1: Research Model**

## RESEARCH METHODOLOGY

### Data Collection and Operationalization of the Constructs - Current Stage

To test the relationships depicted by the research model and the research hypotheses, we will use a survey instrument for data collection. Using the results of a Websense (2006) survey on employee personal Internet usage at work, we have identified six behaviors to examine in our study: browsing non-work related informational content (i.e. news, sports, weather, and stocks), sending and receiving personal email, engaging in online shopping/auctions, participating in online communities/blogging, downloading music and viewing pornography. Respondents indicated vastly different rates of participation in these activities, with 83% of respondents reporting browsing non-work related informational content, while viewing pornography was reported by only 1% of respondents. We purposely chose a range of actions so that we could get a better understanding of why employees engage in some PIUW activities as well as why they abstain from others. Since we are aware that some organizations allow some personal uses of the Internet in the workplace, we will frame each question by specifying personal Internet use in excess of what is allow by the respondent's organization.

The constructs in this study were derived from ethics, psychology, and IS literature. For each construct we have uncovered the underlying domains and created corresponding items. The items in the survey instrument were developed based on existing instruments when possible. We use a 7 point Likert scale ranging from 1 to 7 (1 for "Strongly disagree" and 7 for "Strongly agree") for the questions.

The survey will be pilot-tested by a small group of graduate students in the MBA program of a major US university to uncover any issues with the wording and content. Pilot respondents will provide written comments regarding the survey and their comments will be used for refinement of the survey. The final survey will be created and hosted online. The participants for the survey will be white-collar workers who have access to the Internet during the course of their daily work activities.

### Data Analysis

Because of the proposed moderating relationship between moral intensity and the other constructs, the partial least squares approach (PLS) will be used to test multiple relationships simultaneously (Ma and Agarwal 2007). PLS was selected because of its ability to handle both formative constructs and reflective constructs and its flexibility to model multiple predictors, latent variables, and measurement errors (Chin et al. 2003).

## EXPECTED IMPLICATIONS, LIMITATIONS AND FUTURE RESEARCH

### Expected Theoretical Implications

Most previous models of information systems adoption only consider cases in which the user is using the technology in accordance with organizational guidelines. This study extends existing IS usage research by examining situations in which

there exists an ethical component to usage. For future researchers, this study sheds light on the importance of taking into account the impact of moral intensity when studying IS usage that involves an ethical issue.

### Expected Managerial Implications

Because of the potential high costs and prevalence of PIUW by employees at work, it is important for managers to understand the motivation behind this type of IS usage. A better understanding of the motivation of **PIUW** at work will allow managers to take steps to reduce the occurrence of this activity.

### Limitations and Future Research

One of the limitations of this research is that it only examines an employee's intention to engage in personal Internet usage at work. According to a model proposed by Rest (1979), the moral decision-making process is composed of four interrelated stages: moral awareness, moral judgment, intention, and behavior. Our future research will conduct similar studies examining each of the remaining three stages to better understand the entire moral decision-making process concerning personal Internet usage at work.

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